

In summary, this book is sensibly organized, reads well, and provides knowledge to students of science and engineering who follow courses on polymers during their academic studies. This book is also of great value to researchers with no previous polymer experience.

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Cellulose and Wood: Chemistry and Technology. Edited by Conrad Schuerch, John Wiley & Sons Inc., New York, 1989. xi + 1638 pp. ISBN 0-471-51256-7. Price: £61.30.

A splendid collection of original research reports, this volume on cellulose provides an up to date record of progress made on cellulose and wood chemistry. The papers presented were aimed at furnishing new information gathered in recent years on biogenesis and structure of cellulose, characterization of cellulose structures, interaction of cellulose with moisture and electrolytes, microbial processes involved in synthesis of cellulose, surface chemistry of cellulose-wood-lignins and cellulosic membranes, as well as several other general papers. It is thus a rich collection of information in this ever expanding field of natural products.

The work has been dedicated to Professor Anatole Sarko, who is an internationally reputed authority on the chemistry of polysaccharides. He was very much associated with the organisation of the scientific program which this book represents.

The collection contains the valuable plenary lecture on 'Cellulosics as Advanced Materials' by Dr Robert H. Marche-Ssault and the illuminating lecture on 'Studies on the Inhibition of Carbohydrate Metabolism' by Dr Bruce Ganem. The former lecture pinpoints the close relationships of cellulosic materials with biomass, through ecology, energy and economy to technology at large, and stresses the truth that the progress of electronic printing technologies will have its bearing on advanced material challenges from cellulosics. The other paper marks an account of the biochemical significances of glycosides and the very many microbial pathways of their inhibition.

The papers dealing with cellulose structures provide details of such important and advanced techniques as X-ray fibre diffraction, Ramar Spectroscopy and solid-state ^{13}C NMR along with topics covering structure of cellulose and cellulose derivatives using their chiral

characteristics, technology of NMR imaging in woods and determination of structures of various other modifications of cellulose. The papers on cellulose-water interactions include, among others, water vapour sorption by viscous rayon, nonisothermal diffusion of moisture in wood, dynamic viscoelasticity of cellulose in water and cellulose-water interactions studied by ^2H NMR. Those papers on biogenesis of cellulose include purification of cellulose synthase from acetobacter xylinum, nascent structure of bacterial cellulose, cloning of genes involved in cellulose synthesis, growth of cell wall in green and red algae and correlation between biogenic processes in cellulose. The papers on cellulosic membranes, surface chemistry of cellulosic materials and those on general aspects are exhaustive and full of new dimensions.

It is expected that researchers, readers and specialists alike will find the collection worthy of consultation for interpretation of findings while gathering prospects of further work in this field.

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